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ABSTRACT

A study examined the effect of sustained silent reading and writing on the reading achievement, writing, and reading attitude of students reading two or more years below grade level. Subjects, 97 seventh graders and 104 eighth graders enrolled in a semi-rural, predominantly black, lower socioeconomic status, Southeastern school district, were split into control and experimental groups. The experimental group participated in a 10-week pilot sustained silent reading and writing program while the control group used a basal reading program. Results indicated seventh grade students in the experimental group scored significantly higher on measures of reading, writing, and attitudes toward reading than the control group. Results also indicated, however, that the eighth grade students in the experimental group scored significantly higher than the control group only on the writing measure. (Five tables and two figures of data are included.) (RS)

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The Effect of Sustained Silent Reading and Writing on Achievement and Attitudes of Seventh and Eighth Grade Students Reading Two Years below Grade Level

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Running Head: SSR & SSW

Paper presented at the American Educational Research Association

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Abstract

The Effects of Sustained Silent Reading and Writing on Achievement and Attitudes of Seventh and Eighth Grade Students Reading Two Years below Grade Level

A 10-week program of sustained silent reading (SSR) and sustained silent writing (SSW) for 201 seventh and eighth grade students reading two or more years below grade level was effective in significantly improving reading achievement, writing, and attitude toward reading for seventh graders when those in the program were compared with a control group. Significant improvement for the eighth grade group was found on the writing measure. When students at each grade level were blocked on ability, using the appropriate pretest, significant differences were found for the medium low and low seventh grade experimental groups on the Gates reading achievement when compared with the comparable control subgoups. These two lowest subgroups in the eighth grade sample scored significantly higher than their counterparts on the STEP-W, an indirect writing measure. In view of the minimal cost of instituting SSR and SSW further research is suggested.

The Effects of Sustained Silent Reading and Writing on Achievement and Attitudes of Seventh and Eighth Grade Students Reading Two Years below Grade Level

The need for school reform has been well established by numerous national studies and panels. From a Nation at Risk(1983) to The National Assessment of Educational Progress(1987) to Goodlad's A Place Called School(1984) and the many other reports i.e. the Carnegie Report and Becoming a Nation of Readers(1985), various changes have been recommended to improve achievement of the nation's students. One of the areas of greatest concern has been the students' ability to read, or the lack of it. State departments of education and district administrators have placed pressure on schools and teachers to improve standardized test scores, since they have become the tangible measures of student learning. The major issue has been what curriculum and instruction changes should be made to accomplish improved student performance. There is no general agreement on a particular program or approach that will accomplish improved achievement, specifically in reading.

One recommended approach to improve reading achievement has been to increase independent reading and another has been to integrate closely the reading and writing activities of students. These activities have appealed to school districts because they are less expensive than some other approaches i.e. computer assisted instruction. The unanswered questions are whether these approaches are cost efficient and are they effective. The results of research found in the literature were not conclusive. Oliver(1969, 1976) reported that the students who participated in sustained silent reading (SSR) during their reading instruction made greater gains than those who did not have SSR as part of their instruction but the results were not statistically significant. In a study by Reed (1977) the students who were engaging in SSR as part of the reading instruction did as well as those who received the traditional program. Since students with positive attitudes read more, attitude toward reading has also been included in studies. When attitude toward reading was investigated Wilmot (1975) found significantly better attitude toward reading, but Reed (1977),Harvey (1974), and Hanson (1972) did not find significant differences in attitude for those engaged in SSR versus those who did not. Sustained silent writing (SSW), frequently used synonymously as journal writing, has received "good press" but little evidence that it improves reading, writing and/or attitude toward reading

and writing. Allington (1975) reports positive results for improved writing, but the evaluation was subjective and the criteria for scoring were not explained.

In summary, the evidence for the effectiveness of sustained silent reading and writing on achievement and attitude is not conclusive. There is evidence that they do no harm, but in educational reform, that is small consolation.

From a theoretical point of view there is some support for these types of activities. Information processing theories indicate different types of knowledge which one encodes and decodes; these are declarative knowledge and procedural knowledge with images as another type of input. Since reading is a process and is categorized under procedural knowledge, the recommended course of action for developing procedural knowledge is practice and feedback. Sustained silent reading and writing have been designated as periods of practice. What they lack is feedback. Gagne (1985) stated,"Expertise in basic skills,just like expertise in specific disciplines, is largely a matter of having the right procedural knowledge." (p.103). She continued with the statement that "many patterns are learned through experience, without direct instruction" (p.106). Procedural knowledge has been divided into two types, pattern

recognition and action sequences with the former preceding the latter in order. Reading involves pattern recognitions and action sequences. If these can be learned through practice without direct instruction (and feedback), then SSR and SSW could be effective ways of increasing students' pattern recognition ability and could result in improved automation of action sequences. A prediction that SSR and SSW, as practice activities, would result in improvement in reading achievement, albeit limited by the lack of feedback, appeared justified.

A semi-rural school district in the Southeast which had one-third of its middle school students reading two or more years below grade level and which was limited in financial resources instituted a 10-week pilot program of sustained silent reading and sustained silent writing in the seventh and eighth grade. The hypothesized outcomes were improvements in reading, writing and attitude toward reading.

Method

Subjects. In the seventh and eighth grade 216 students were identified as reading two or more years below academic grade placement. These were randomly assigned to the experimental and control groups. When data were assembled, complete information was available on only 201 students of the

identified group. Of the 97 seventh graders 51 were in the experimental group and 46 in the control group. For the 104 eighth grade students, 57 were in the experimental group and 47 were in the control group. The students were predominantly black and from low socioeconomic status(SES). SES was determined by the number receiving free or reduced lunch.

Materials.

Both the experimental and control groups used the Holt Basic Reading Program. The control group used the basal series during the entire instructional period. This program consists of a series of reading textbooks and workbooks which provide a planned sequence of instruction in reading skills. For the students in the experimental groups a selection of reading material from which they self-selected their reading for the sustained silent reading were provided in the classrooms. Recreational reading, periodicals, and stories at or below the reading level of the students were placed in the classrooms. Textbooks in reading and other subject areas were excluded from the selection of reading material available for SSR. For the sustained silent writing each student furnished a notebook of his or her choice. These were kept in a secure place in the rooms during the weeks of the investigation.

Measures.

The Gates-MacGinitie Reading tests, Form E1 and E2 were used for the pre and posttests, respectively, to measure general reading achievement. To measure attitude toward reading the Estes Attitude Scale was selected. It consists of statements about reading to which the student can respond from strongly agree to strongly disagree on a five-point Likert scale. Two writing measures, each of which has alternate forms were used to measure writing during pre and posttest administrations. The writing subtest of the Sequential Tests of Educational Progress (STEP-III), an indirect measure of writing skills, and the Sager Writing Scale, a holistic measure of writing ability were selected.

Design.

The design was a Pretest-Posttest Control Group Design (Campbell and Stanley, 1963) with 97 seventh grade subjects and 104 eighth grade subjects randomly assigned to experimental and control groups in each grade. All seventh grade data were run separately from eighth grade data. The Gates pretest and the STEP-W pretest were used to block the students on ability for posttest analysis. Two-way ANOVAs were run on the posttest Gates and STEP-W by group and ability. One-way ANOVAs by group were run on the Sager (writing) and the Estes (attitude toward reading).

Procedures.

Prior to the beginning of the study the principal and teachers involved in the study received training in testing and instructional strategies. Demonstration and practice sessions were held. All students were administered the four measures, Gates, STEP-W, Sager and Estes at the beginning of the study. The reading block was the same amount of time for the experimental and control groups. Both groups received instruction using the Holt basal reading materials. The major components of this instruction are preparing for reading, reading and comprehension, developing and applying skills, meeting individual needs and enrichment. The experimental group received this type of instruction for 20 minutes less each day than the control group. The experimental group engaged in 20 minutes of silent reading three days a week and 20 minutes of silent writing two days a week. During these times the students and teachers engaged in either reading (Monday, Wednesday, and Friday) or writing (Tuesday and Thursday) silently and without interruption. Reading selections and writing topics were self-selected and self-generated, respectively. Journals were collected after each writing session and teachers logged writing samples as they were turned in. Only the teacher and each student had access to the student's journal. The classes were monitored each week and the teacher turned in a Teacher's Self-Report Survey which was reviewed regularly during the study. At

the end of the 10-week period all students in the experimental and control groups were administered the same four measures. Alternate forms of the Gates and STEP-W were used. The Sager was hollstically scored by three scores who were trained in this scoring method. Interrater reliability for the scorers was established prior to the study, r=.97. Statistical Analysis Sytems (SAS) was used to analyze the data.

Results

The results section is divided into two parts, results for seventh grade and results for eighth grade. ANOVAs on pretest scores between the experimental and control groups showed no significant differences on any of the measures. Posttest means and standard deviations for both grades, are presented in Table 1.

(insert Table 1 about here)

Seventh grade.

There was a significant difference in favor of the experimental group on the posttest Gates, no significant difference by ability, and no interaction effect (see Table 2).

(insert Table 2 about here)

The experimental group was significantly higher on the STEP-W (indirect measure of writing skills) posttest than the control group. There was no significant difference by ability. A significant interaction between group and ability was found (see Table 2 and Figure 1).

(insert Figure 1 about here)

The four ability groups were designated as High, Medium High, Medium Low, and Low. It should be remembered that the terms are relative to the group, not students in general. All subjects were reading two years below grade level. Post hoc comparisons were made. The experimental medium low group was significantly higher on the STEP-W posttest than the control medium low group (t=-3.55, p .01). No other t values reached a p value of .05 or less.

There was a significant difference between the scores on the Sager (writing sample) between the seventh grade experimental and control groups in favor of the experimental group (see Table 3).

(insert Table 3 about here)

The final posttest comparison for seventh grade students was on the Estes Attitude Scale (attitude toward reading). Here also there was a significant difference between the experimental and control groups. The

experimental group had a more positive attitude toward reading(see Table 3).

In summary of the seventh grade results there were significant differences in favor of the experimental group on all four dependent measures. Thus, seventh grade students who engaged in the sustained silent reading and sustained silent writing scored significantly higher on reading achievement, writing (indirect and direct measures), and attitude toward reading than the control group.

Eighth grade.

Means and standard deviations for the Gates, STEP-W, Sager, and Estes posttests were presented in Table 1. The two-way ANOVA by group and ability for the Gates posttest showed no significant difference by group. There was a significant difference by ability and a significant interaction between group and ability (see Table 4 and Figure 2). The medium low and low groups of the experimental group scored significantly higher than these comparable groups in the control group.

(insert Table 4 and Figure 2 about here)

On the STEP-W posttest there was no significant difference for the eighth grade students by group. There was a significant difference by ability; no significant interaction (see Table 4).

There was a significant difference on the Sager posttest between the experimental and control groups for the eighth grade students (see Table 5).

(insert Table 5 about here)

No significant differences were found on the Estes Attitude Scale postest between the groups (Table 5).

In summary of the eighth grade results a significant difference was found between groups on the Sager posttest, a measure of writing skills. When the eighth grade students were blocked on ability, significant differences were found on the Gates posttest, (reading achievement) for the medium low and low groups in favor of the experimental group.

Discussion and Conclusions

For seventh grade student a 10-week program of sustained silent reading (20 minutes, 3 times a week) and sustained silent writing (20 minutes, 2 times a week) resulted in significant differences between those who received this program as part of the language arts block of instruction and those who used the basal reading series only. The seventh grade experimental group scored significantly higher on measures of reading (Gates), writing (Sager and STEP-W) and attitudes toward reading (Estes). For the eighth grade students only the Sager, a writing

measure, showed significant gains for the eighth grade experimental group over the control group. There were interaction effects on the Gates (reading) when the eighth grade students were blocked on ability using the pretests. Those students in the experimental group who were in the medium low and low subgroups scored significantly higher than those in the same subgroups of the control group. Since these students who score the lowest are the target population for most intervention programs and the hardest group from which one attains significant gains, this finding is encouraging.

For students reading two years below grade level, the data do no explain why such a program was more effective for seventh graders than for eighth graders. In view of positive results which were obtained in this study further investigation of the use of sustained silent reading and writing would seem justified. That these instructional activities seemed to be most effective with the lowest two groups of these low achieving students is worthy of further research. Peplication is needed for the findings to be generalizable to other types of students and other grade levels. The low cost associated with silent reading and writing makes such activities attractive to those seeking new or modified alternatives. Based on information processing theories, feedback is a missing ingredient. If a

modification of the program described above, could be devised to integrate a feedback component, results might be more dramatic.

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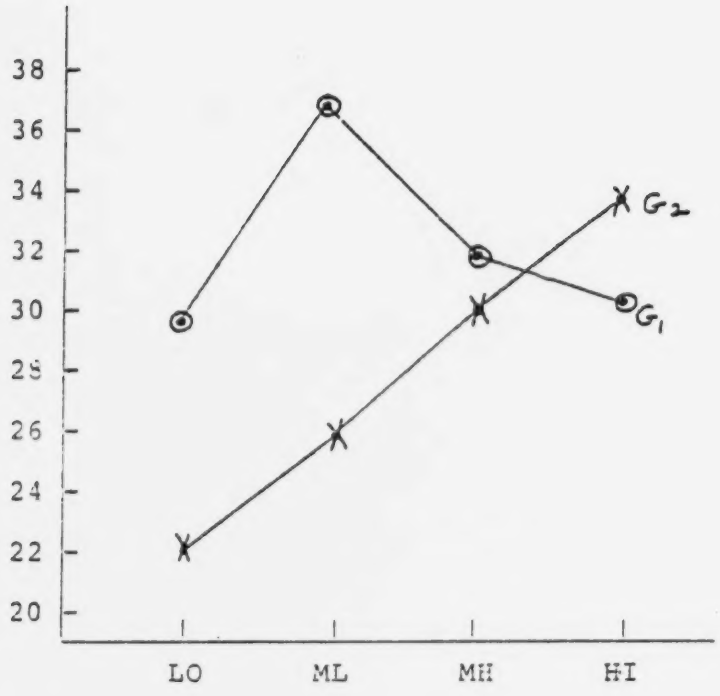
Table 1

Means of Posttest Scores by Grade and Group

Grade 7	Experimental N = 51		Control N = 46	
	Mean	SD	Mean	SD
Gates Vocabulary	22.0	5.5	17.1	5.1
Gates Comprehension	23.0	5.3	19.4	5.3
Gates Summary	45.0	9.8	36.5	8.6
STEP-III Writing	32.5	7.5	29.8	8.5
Sager Writing Scale	7.6	1.4	6.5	2.1
Estes Attitude Scale	15.6	3.2	13.7	4.4
Grade 8	Experimental N = 57		Control N = 47	
	Mean	SD	Mean	SD
Gates Vocabulary	24.8	6.9	22.4	8.1
Gates Comprehension	24.1	5.3	23.4	8.5
Gates Summary	48.8	10.4	45.9	15.7
STEP-III Writing	34.6	6.8	36.4	8.9
Sager Writing Scale	7.8	1.2	6.9	1.7
Estes Attitude Scale	14.1	3.9	13.7	3.7

Figure Caption

Figure 1. Graph of Means for Post STEP of Four Ability Levels, Grade Seven.



G_1 = Experimental Group O G_2 = Control Group X

HI = high ability

MH = medium high

ML = medium low

LO = low ability

G_1	Means	N	G_2	Means	N	t
HI	30.7	6	HI	34.0	18	.94
MH	31.8	13	MH	30.2	13	-.55
ML	36.5	16	ML	25.9	10	-3.55
LO	29.6	16	LO	22.0	5	-2.00

Table 2

Two-Way ANOVA by Group and Ability for Post Gates and Post STEP-W

Grade Seven

Post Gates

Source	df	SS	MS	F
Group	1	1919.3	1919.3	22.17***
Ability	3	178.2	59.4	.60
Interaction	3	445.7	148.5	1.7
Error	89	7704.8	86.5	
Total	96	10248.0		

Post STEP-W

Group	1	340.7	340.7	6.22*
Ability	3	417.4	139.1	2.54
Interaction	3	591.1	197.0	3.60*
Error	89	4877.5	54.8	
Total	96	6226.7		

*$p < .05$

***$p < .001$

Table 3

One-Way ANOVA by Group for Post Sager and Post Estes, Grade Seven

Sources	df	SS	MS	F
Post Sager				
Group	1	30.7	30.7	9.56**
Error	95	305.4	3.2	
Total	96	336.1		
Post Estes				
Group	1	92.1	92.1	6.41
Error	95	1365.4	14.4	
Total	96	1457.5		

*p < .05
**p < .01

Table 4

Two-Way ANOVA by Group and Ability for Post Gates and STEP-W, Eighth Grade

Post Gates

Sources	df	SS	MS	F
Group	1	39.7	39.7	.31
Ability	3	1817.5	605.8	4.76**
Interaction	3	1281.0	727.0	5.72**
Error	95	12082.5	127.1	
Total	102	16120.7		

Post STEP-W

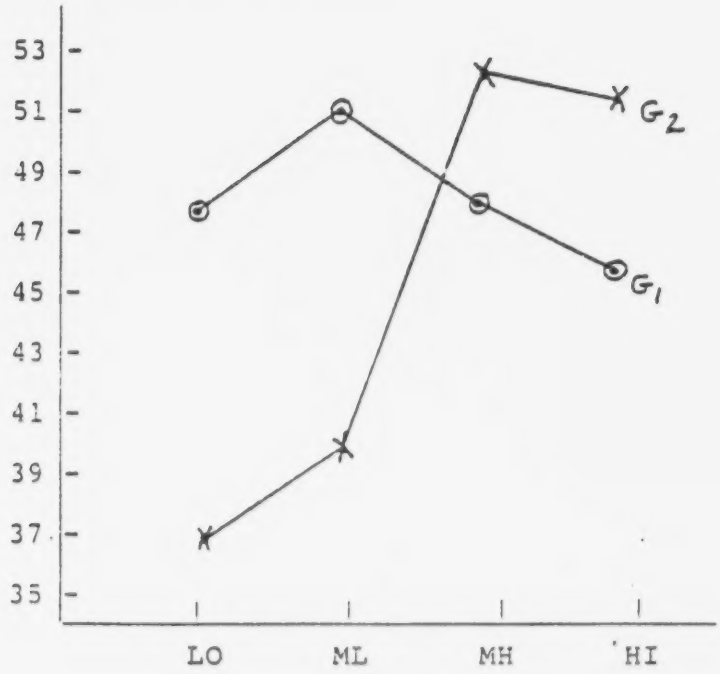
Group	1	32.7	32.7	.73
Ability	3	1657.1	552.4	12.31***
Interaction	3	254.7	84.9	1.89
Error	96	4307.9	44.8	
Total	103	6252.4		

**p < .01
***p < .001

Figure Caption

Figure 2. Post Gates with Interaction Graph, Grade Eight.

Critical value of t = 2.51



G_1 = Experimental Group O G_2 = Control Group X

HI = high ability

MH = medium high

ML = medium low

LO = low ability

	G_1	N	G_2	N	t
HI	46.00	15	51.62	13	1.31
MH	48.50	10	52.07	14	.77
ML	51.40	20	39.71	7	2.74*
LO	48.33	12	37.00	13	2.51*

Table 5

One-Way ANOVA by Group for Post Sager and Post Estes, Grade Eight

Post Sager

Source	df	SS	MS	F
Group	1	24.23	24.22	11.83***
Error	102	208.81	2.05	
Total	103	233.0		

Post Estes

Group	1	2.8	2.8	.2
Error	102	1470.2	14.4	
Total	103	1473.0		

***p < .001